

IV. Remarks

Claims 1 and 4 have been amended to more clearly set forth that the duration of the opposite polarity period inserted into the DC portion is shorter than the time period of the positive and negative periods of the AC portion. This feature is described in the specification for example in paragraphs 0026 and 0027.

The Examiner rejected claims 1-6 under 35 USC 102(b) as being anticipated by US Patent No. 5,283,419 (Hagiwara et al.). According to the Examiner, Hagiwara et al disclose a welding method and a welding power supply with the features claimed. In regard to claim 1, the Examiner noted that TWO consecutive periods labeled “TDC” in Hagiwara et al constitute the claimed “DC current portion; the intermediate period between these two TDC periods, labeled “TAC” in Hagiwara et al constitute the claimed “at least one current pulse of polarity opposite to the polarity of the DC current”. In regard to claim 3, the Examiner stated that the same is broad enough to read on the waveform of Hagiwara et al. According to the Examiner, at least one of the pulses in a period TAC will have multiple and different spacings from respective multiple different other pulse groups. In regard to claim 4, the Examiner pointed out figure 7 of Hagiwara et al.; and noted the DC power supply at 5; the first and second semiconductor switching devices at 1 and 2; and the control means at 10-13 as claimed.

As set forth above, the Examiner noted that, in Hagiwara et al, an intermediate period labeled “TAC”, corresponding to “at least one current pulse of polarity opposite to the polarity of the DC current” recited in Claim 1 is present in a period between two TDC periods. However, it is respectfully submitted that Figures 2 and 3 of Hagiwara et al. show that the lengths of the positive and negative periods in the TAC periods preceding and succeeding a particular TDC period are the same. On the other hand, the time period of the pulse of opposite polarity to the DC current as set forth in Claim 1, and the negative pulse period as recited in claim 4 are shorter than the period of the time period of the positive and negative portions of the AC portion. Thus Hagiwara et al. neither discloses nor suggests the features of applicants’ invention as set forth in Claim 1 or in Claim 4. Accordingly, it is respectfully submitted that Hagiwara et al. does not

anticipate claims 1 and 4 nor does it render these claims obvious to one of ordinary skill in the art. Therefore, it is respectfully submitted that claims 1 and 4 are patentable over the Hagiwara et al. patent. Since claims 2 and 3 and claims 5-7, all of the remaining claims in the present application, depend from patentable claims 1 and 4 respectively, it is respectfully submitted that those dependent claims are likewise patentable.

The Examiner cited Japanese document no. JP62-61779A to show a prior art welding method wherein periods of AC arc current alternate with periods of DC arc current. It is respectfully submitted that this document neither discloses nor suggests applicants' invention as set forth in the claims of the present application as amended. Therefore, it is respectfully submitted that claims 1-7 are patentable over Japanese document no. JP62-61779A.

In view of the above, it is respectfully submitted that claims 1-7, all of the claims presently pending in the application are patentable over the references of record. Therefore, reconsideration of the present application and an early Notice of Allowance is earnestly solicited.

Date: December 23, 2004

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